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What we claim is:

1. Crystalline 7-[2-(2-aminothiazol-4-yl)-2-hydroxyimino-acetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) which shows the peaks at the diffraction angles shown in the following table in its powder X-ray diffraction pattern:

diffraction 10 angle(°) about 14.7 15 17.8 about about 21.5 about 22.0 25 23.4 about about 24.5 30 28.1 about

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- 2. Crystalline 7-[2-(2-aminothiazol-4-yl)-2-hydroxyimino-acetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) which is obtainable by acidifying a solution containing 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) at room temperature or under warming.
- 3. Crystalline substance of claim 2,
 wherein a solution containing 7-[2-(2-aminothiazol-4-yl)2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid
 (syn isomer) is an aqueous solution of an alkali metal salt
 of said compound.
 - 4. Crystalline substance of claim 3, wherein the acidifying of the solution is carried out at the temperature from room temperature to 40°C at the pH from 1 to 4.
- 5. Crystalline 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer)
 which is obtainable by dissolving 7-[2-(2-aminothiazol-4yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic
 acid (syn isomer) in an alcohol, continuing to stir the
 solution slowly under warming, then cooling the solution to
 room temperature and allowing the solution to stand.
 - 6. A process for preparing crystalline 7-[2-(2-amino-thiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) which comprises acidifying a solution containing 7-[2-(2-aminothiazol-4-yl)-2-hydroxy-iminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) at room temperature or under warming.

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- 7. A process of claim 6, wherein a solution containing 7-[2-(2-aminothiazo1-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) is an aqueous solution of an alkali metal salt of said compound.
- 8. A process of claim 7, wherein the acidifying of the solution is carried out at the temperature from room temperature to 40°C at the pH from 1 to 4.
- 9. A process for preparing crystalline 7-[2-(2-amino-thiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) which comprises dissolving 7-[2-(2-aminothiazol-4-yl)-2-hydroxyiminoacetamido]-3-vinyl-3-cephem-4-carboxylic acid (syn isomer) in an alcohol, continuing to stir the solution slowly under warming, then cooling the solution to room temperature and allowing the solution to stand.

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